Commonwealth of Kentucky

Environmental and Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

Title V
AIR QUALITY PERMIT
Issued under 401 KAR 52:020

Permittee Name:	Kentucky Utilities Company
Mailing Address:	One Quality Street, Lexington, Kentucky 40507
Source Name:	E. W. Brown Generating Station
Mailing Address:	815 Dix Dam Road, Harrodsburg, Kentucky 40330
Source Location:	815 Dix Dam Road, Burgin, Kentucky 40310
Permit Number:	V-03-034
Log Number:	50118 (E992)
Review Type:	Title V, Operating, PSD
Source ID #:	21-167-00001
ORIS Code:	1355
Regional Office:	Frankfort Regional Office 643 Teton Trail, Suite #B Frankfort, KY 40601 (502) 564-3358
County:	Mercer
Application Complete Date:	**February 14, 1997**
Issuance Date:	**March 1, 2005**
Expiration Date:	**March 1, 2010**

John S. Lyons, Director
Division for Air Quality

Revised 12/09/02

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SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first having submitted a complete application and received a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 01 (01) - Unit 1 Indirect Heat Exchanger

Description:
Constructed commenced before: 1957
Pulverized coal-fired, dry bottom, wall-fired unit equipped with an electrostatic precipitator and low nitrogen oxides burners
Number two fuel oil used for startup and stabilization
Maximum continuous rating: 1260 mmBtu/hr

Applicable Regulations:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emission unit greater than 250 mmBtu/hr and commenced before August 17, 1971, and
Regulation 7, Prevention and Control of Emissions of Particulate Matter from Combustion of Fuel in Indirect Heat Exchangers

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   a) Pursuant to 401 KAR 61:015, Section 4 (4), and Regulation No. 7, particulate emissions shall not exceed 0.254 lb/mmBtu based on a three-hour average.

   b) Pursuant to 401 KAR 61:015, Section 4 (4), and Regulation No. 7, emissions shall not exceed forty (40) percent opacity based on a six-minute average except that a maximum of sixty (60) percent opacity is allowed for a period or aggregate of periods of not more than six minutes in any sixty (60) minutes during building a new fire, cleaning the firebox, or blowing soot.

   c) Pursuant to 401 KAR 61:015, Section 5 (1), sulfur dioxide emissions shall not exceed 5.15 lb/mmBtu based on a twenty-four-hour average.

3. **Testing Requirements:**
   a) The permittee shall submit a schedule within six months from the issuance date of this permit to conduct at least one performance test for particulate within one year following the issuance of this permit. Opacity data from the Continuous Opacity Monitor (COM) obtained during the performance test shall be correlated with the particulate emission rate to establish an average opacity level pursuant to Condition 4.d below.

   b) If no additional stack tests are performed pursuant to Condition 4.d below, the permittee shall conduct one performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the allowable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. Specific Monitoring Requirements:

a) Pursuant to 401 KAR 61:005, Section 3 and material incorporated by reference in 401 KAR 52:020, Section 10, continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions and either oxygen or carbon dioxide emissions. The continuous emission monitoring systems shall comply with 401 KAR 61:005, Section 3, particularly, performance specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A.

b) In accordance with 401 KAR 61:015, Section 6 (1), the sulfur content of solid fuels, as burned shall be determined in accordance with methods specified by the Division.

c) In accordance with 401 KAR 61:015, Section 6 (3) the rate of each fuel burned shall be measured daily and recorded. The heating value and ash content of fuels shall be ascertained at least once per week and recorded. The average electrical output, and the minimum and maximum hourly generation rate shall be measured and recorded daily.

d) Pursuant to 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). The average opacity level, determined pursuant to condition 3.a above, plus 5% opacity, will become the opacity trigger level. Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity (averaged over a period of three hours) value exceeds the opacity trigger level, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If five (5) percent or greater of COM data (excluding startup, shut down, and malfunction periods, data averaged over six minute period) recorded in a calendar quarter show excursions above the opacity trigger level, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G (a) (17) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance tests.

e) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for opacity, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or COM system and make any necessary repairs. If any visible emissions are seen, then opacity must be determined using Reference Method 9, or by accepting the concurrent readout from the COM and the permittee shall perform an inspection of the control equipment and make any necessary repairs. If a Method 9 cannot be performed, the reason for not performing the test shall be documented.

f) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for sulfur dioxide, the permittee shall use a continuous emission monitor (CEM) Excluding the startup and shut down periods, if any 24-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

g) Pursuant to 401 KAR 61:005, Section 3, a continuous monitoring system for opacity shall conform to requirements of this section which include installing, calibrating, operating, and maintaining the continuous monitoring system for accurate opacity measurement, and demonstrating compliance with the applicable Performance Specification 1 of 40 CFR 60, Appendix B.

h) Pursuant to 401 KAR 61:005, Section 3 (5), the Division may provide a temporary exemption from the monitoring and reporting requirements of 401 KAR 61:005, Section 3, for the continuous opacity monitoring system during any period of monitoring system malfunction, provided that the source owner or operator shows, to the Division's satisfaction, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

5. Specific Record Keeping Requirements:

a) Records shall be kept in accordance with 401 KAR 61:005, Section 3(16)(f) and 401 KAR 61:015, Section 6. Percentage of the COM data (excluding startup, shut down, and malfunction data) showing excursions above the opacity standard in each calendar quarter shall be computed and recorded.

b) The permittee shall maintain records of the COM data on a three-hour rolling average basis, the number of excursions above the trigger level, time and date of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level in each calendar quarter.

c) The permittee shall maintain the results of all compliance tests.

6. Specific Reporting Requirements:

a) Pursuant to 401 KAR 61:005, Section 3 (16), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division:

1. Owners or operators of facilities required to install continuous monitoring systems for sulfur dioxide emissions shall submit for every calendar quarter, a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the emissions standard averaging period which is a twenty-four (24) hour averaging period. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter.

2. For opacity measurements, the summary shall consist of the magnitude in actual percent opacity of six (6) minute averages of opacity greater than the opacity standard in the applicable standard for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous opacity measurements per minute. Any time period exempted shall be considered before determining the excess average of opacity.

3. For gaseous measurements the summary shall consist of hourly averages in the units of the applicable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. Proof of continuous monitoring system performance is required as specified by the Division whenever system repairs or adjustments have been made.

5. When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

b) The permittee shall report the number of excursions above the trigger level, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level in each calendar quarter.

7. Specific Control Equipment Operating Conditions:

a) The electrostatic precipitator shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the electrostatic precipitator shall be maintained.

c) See Section E for further requirements.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 02 (02) - Unit 2 Indirect Heat Exchanger

Description:
Construction commenced before: 1963
Pulverized coal-fired, dry bottom, tangentially-fired, equipped with an electrostatic precipitator and low nitrogen oxides burners
Number two fuel oil used for startups and stabilization
Maximum continuous rating: 1733 mmBtu/hr

Applicable Regulations:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emission unit greater than 250 mmBtu/hr and commenced before August 17, 1971

1. **Operating Limitations:**
None

2. **Emission Limitations:**
a) Pursuant to 401 KAR 61:015, Section 4 (1), particulate emissions shall not exceed 0.162 lb/mmBtu based on a three-hour average.

b) Pursuant to 401 KAR 61:015, Section 4 (3), emissions shall not exceed forty (40) percent opacity based on a six-minute average except that a maximum of sixty (60) percent opacity shall be permissible for not more than one (1) six (6) minute period in any sixty (60) consecutive minutes.

c) Pursuant to 401 KAR 61:015, Section 5 (1), sulfur dioxide emissions shall not exceed 5.15 lb/mmBtu based on a twenty-four-hour average.

3. **Testing Requirements:**
a) The permittee shall submit a schedule within six months from the issuance date of this permit to conduct at least one performance test for particulate within one year following the issuance of this permit. Opacity data from the Continuous Opacity Monitor (COM) obtained during the performance test shall be correlated with the particulate emission rate to establish an average opacity level pursuant to Condition 4.d below.

b) If no additional stack tests are performed pursuant to Condition 4.d below, the permittee shall conduct one performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the allowable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. Specific Monitoring Requirements:

a) Pursuant to 401 KAR 61:005, Section 3 and material incorporated by reference in 401 KAR 52:020, Section 10, continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions and either oxygen or carbon dioxide emissions. The continuous emission monitoring systems shall comply with 401 KAR 61:005, Section 3, particularly, performance specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A.

b) In accordance with 401 KAR 61:015, Section 6 (1), the sulfur content of solid fuels, as burned shall be determined in accordance with methods specified by the Division.

c) In accordance with 401 KAR 61:015, Section 6 (3) the rate of each fuel burned shall be measured daily and recorded. The heating value and ash content of fuels shall be ascertained at least once per week and recorded. The average electrical output, and the minimum and maximum hourly generation rate shall be measured and recorded daily.

d) Pursuant to 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). The average opacity level, determined pursuant to condition 3.a above, plus 5% opacity, will become the opacity trigger level. Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity (averaged over a period of three hours) value exceeds the opacity trigger level, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If five (5) percent or greater of COM data (excluding startup, shut down, and malfunction periods, data averaged over six minute period) recorded in a calendar quarter show excursions above the opacity trigger level, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G (a) (17) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance tests.

e) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for opacity, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or COM system and make any necessary repairs. If any visible emissions are seen, then opacity must be determined using Reference Method 9, or by accepting the concurrent readout from the COM and the permittee shall perform an inspection of the control equipment and make any necessary repairs. If a Method 9 cannot be performed, the reason for not performing the test shall be documented.

f) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for sulfur dioxide, the permittee shall use a continuous emission monitor (CEM) Excluding the startup and shut down periods, if any 24-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

g) Pursuant to 401 KAR 61:005, Section 3, a continuous monitoring system for opacity shall conform to requirements of this section which include installing, calibrating, operating, and maintaining the continuous monitoring system for accurate opacity measurement, and demonstrating compliance with the applicable Performance Specification 1 of 40 CFR 60, Appendix B.

h) Pursuant to 401 KAR 61:005, Section 3 (5), the Division may provide a temporary exemption from the monitoring and reporting requirements of 401 KAR 61:005, Section 3, for the continuous opacity monitoring system during any period of monitoring system malfunction, provided that the source owner or operator shows, to the Division's satisfaction, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

5. Specific Record Keeping Requirements:

a) Records shall be kept in accordance with 401 KAR 61:005, Section 3(16)(f) and 401 KAR 61:015, Section 6. Percentage of the COM data (excluding startup, shut down, and malfunction data) showing excursions above the opacity standard in each calendar quarter shall be computed and recorded.

b) The permittee shall maintain records of the COM data on a three-hour rolling average basis, the number of excursions above the trigger level, time and date of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level in each calendar quarter.

c) The permittee shall maintain the results of all compliance tests.

6. Specific Reporting Requirements:

a) Pursuant to 401 KAR 61:005, Section 3 (16), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division:

1. Owners or operators of facilities required to install continuous monitoring systems for sulfur dioxide emissions shall submit for every calendar quarter, a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the emissions standard averaging period which is a twenty-four (24) hour averaging period. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter.

2. For opacity measurements, the summary shall consist of the magnitude in actual percent opacity of six (6) minute averages of opacity greater than the opacity standard in the applicable standard for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous opacity measurements per minute. Any time period exempted shall be considered before determining the excess average of opacity.

3. For gaseous measurements the summary shall consist of hourly averages in the units of the applicable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. Proof of continuous monitoring system performance is required as specified by the Division whenever system repairs or adjustments have been made.

5. When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

b) The permittee shall report the number of excursions above the trigger level, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level in each calendar quarter.

7. Specific Control Equipment Operating Conditions:

a) The electrostatic precipitator shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the electrostatic precipitator shall be maintained.

c) See Section E for further requirements.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 03 (03) - Unit 3 Indirect Heat Exchanger

Description:
Construction commenced before: July 19, 1971
Pulverized coal-fired unit, dry bottom, tangentially-fired equipped with an electrostatic precipitator and low nitrogen oxides burners
Number two fuel oil used for startups and stabilization
Maximum continuous rating: 4128 mmBtu/hr

Applicable Regulations:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emission unit greater than 250 mmBtu/hr and commenced before August 17, 1971, and
Regulation 7, Prevention and Control of Emissions of Particulate Matter from Combustion of Fuel in Indirect Heat Exchangers

1. **Operating Limitations:**
None

2. **Emission Limitations:**
a) Pursuant to 401 KAR 61:015, Section 4 (4), and Regulation No. 7, particulate emissions shall not exceed 0.254 lb/mmBtu based on a three-hour average.

b) Pursuant to 401 KAR 61:015, Section 4 (4), and Regulation No. 7, emissions shall not exceed forty (40) percent opacity based on a six-minute average except that a maximum of sixty (60) percent opacity is allowed for a period or aggregate of periods of not more than six minutes in any sixty (60) minutes during building a new fire, cleaning the firebox, or blowing soot.

c) Pursuant to 401 KAR 61:015, Section 5 (1), sulfur dioxide emissions shall not exceed 5.15 lb/mmBtu based on a twenty-four-hour average.

3. **Testing Requirements:**
a) The permittee shall submit a schedule within six months from the issuance date of this permit to conduct at least one performance test for particulate within one year following the issuance of this permit. Opacity data from the Continuous Opacity Monitor (COM) obtained during the performance test shall be correlated with the particulate emission rate to establish an average opacity level pursuant to Condition 4.d below.

b) If no additional stack tests are performed pursuant to Condition 4.d below, the permittee shall conduct one performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the allowable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. Specific Monitoring Requirements:

a) Pursuant to 401 KAR 61:005, Section 3 and material incorporated by reference in 401 KAR 52:020, Section 10, continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions and either oxygen or carbon dioxide emissions. The continuous emission monitoring systems shall comply with 401 KAR 61:005, Section 3, particularly, performance specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A.

b) In accordance with 401 KAR 61:015, Section 6 (1), the sulfur content of solid fuels, as burned shall be determined in accordance with methods specified by the Division.

c) In accordance with 401 KAR 61:015, Section 6 (3) the rate of each fuel burned shall be measured daily and recorded. The heating value and ash content of fuels shall be ascertained at least once per week and recorded. The average electrical output, and the minimum and maximum hourly generation rate shall be measured and recorded daily.

d) Pursuant to 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). The average opacity level, determined pursuant to condition 3.a above, plus 5% opacity, will become the opacity trigger level. Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity (averaged over a period of three hours) value exceeds the opacity trigger level, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If five (5) percent or greater of COM data (excluding startup, shut down, and malfunction periods, data averaged over six minute period) recorded in a calendar quarter show excursions above the opacity trigger level, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G (a) (17) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance tests.

e) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for opacity, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or COM system and make any necessary repairs. If any visible emissions are seen, then opacity must be determined using Reference Method 9, or by accepting the concurrent readout from the COM and the permittee shall perform an inspection of the control equipment and make any necessary repairs. If a Method 9 cannot be performed, the reason for not performing the test shall be documented.

f) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for sulfur dioxide, the permittee shall use a continuous emission monitor (CEM) Excluding the startup and shut down periods, if any 24-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

g) Pursuant to 401 KAR 61:005, Section 3, a continuous monitoring system for opacity shall conform to requirements of this section which include installing, calibrating, operating, and maintaining the continuous monitoring system for accurate opacity measurement, and demonstrating compliance with the applicable Performance Specification 1 of 40 CFR 60, Appendix B.

h) Pursuant to 401 KAR 61:005, Section 3 (5), the Division may provide a temporary exemption from the monitoring and reporting requirements of 401 KAR 61:005, Section 3, for the continuous opacity monitoring system during any period of monitoring system malfunction, provided that the source owner or operator shows, to the Division's satisfaction, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

5. Specific Record Keeping Requirements:

a) Records shall be kept in accordance with 401 KAR 61:005, Section 3(16)(f) and 401 KAR 61:015, Section 6. Percentage of the COM data (excluding startup, shut down, and malfunction data) showing excursions above the opacity standard in each calendar quarter shall be computed and recorded.

b) The permittee shall maintain records of the COM data on a three-hour rolling average basis, the number of excursions above the trigger level, time and data of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level in each calendar quarter.

c) The permittee shall maintain the results of all compliance tests.

6. Specific Reporting Requirements:

a) Pursuant to 401 KAR 61:005, Section 3 (16), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division:

1. Owners or operators of facilities required to install continuous monitoring systems for sulfur dioxide emissions shall submit for every calendar quarter, a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the emissions standard averaging period which is a twenty-four (24) hour averaging period. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter.

2. For opacity measurements, the summary shall consist of the magnitude in actual percent opacity of six (6) minute averages of opacity greater than the opacity standard in the applicable standard for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous opacity measurements per minute. Any time period exempted shall be considered before determining the excess average of opacity.

3. For gaseous measurements the summary shall consist of hourly averages in the units of the applicable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. Proof of continuous monitoring system performance is required as specified by the Division whenever system repairs or adjustments have been made.

5. When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

b) The permittee shall report the number of excursions above the trigger level, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level range in each calendar quarter.

7. Specific Control Equipment Operating Conditions:

a) The electrostatic precipitator shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the electrostatic precipitator shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 07 (12, 14, 15) - Coal Handling Operations

Description:
Construction commenced before: 1971

Equipment includes:	Maximum Operating Rate (Tons/hour)
West track hopper operations;	820
Conveyors A-1, E, F, G, and H, and transfer points;	820, each
Conveyors B and J, and transfer points;	1640, each
Control Equipment: equipped with enclosures	
Stockpile	1640

Applicable Regulations:
401 KAR 63:010, Fugitive emissions

1. **Operating Limitations:**

a) Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

1. Application and maintenance of asphalt, water, or suitable chemicals on roads, material stockpiles, and other surfaces, which can create airborne dusts;

2. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling;

b) Pursuant to 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

2. **Emission Limitations:**

Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne.

3. **Testing Requirements:**

None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. Specific Monitoring Requirements:
See Section F.

5. Specific Record Keeping Requirements:
Records of the coal received and processed (tonnages) shall be maintained.

6. Specific Reporting Requirements:
See Section F.

7. Specific Control Equipment Operating Conditions:

a) The air pollution control equipment (including but not limited to enclosures for the west track hopper operations, conveyors A-1, E, F, G, H, and transfer points; and including but not limited to compaction and wet suppression for stockpile operations) shall be used as necessary to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and use of the air pollution control equipment (including but not limited to enclosures for the west track hopper operations, conveyors A-1, E, F, G, H, and transfer points; and including but not limited to compaction and wet suppression for stockpile operations) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 09 (12, 14) - Coal Handling Operations

Description:
Construction commenced before 1957 and reconstructed in 1993
Equipment includes: coal receiving operations including east track hopper operations and coal conveying and handling operations including conveyors A and transfer points
Construction commenced before 1957
Equipment includes: coal conveying and handling operations including conveyors B, C, and J and transfer points
Control Equipment: equipped with enclosures
Coal stockpile operations include stockpile equipped with measures for compaction and wet suppression.
Maximum Operating Rate: 820 tons/hour, each

Applicable Regulations:
401 KAR 60:005, Standards of performance for coal preparation plants, incorporating by reference 40 CFR 60, Subpart Y for emissions units commenced after October 24, 1974

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.252, the owner or operator subject to the provisions of this regulation shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

3. **Testing Requirements:**
   Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.254, EPA Reference Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity at least quarterly.

4. **Specific Monitoring Requirements:**
   The permittee shall inspect the partial enclosures control equipment weekly and make necessary repairs to assure compliance.

5. **Specific Record Keeping Requirements:**
   a) Records of the coal received and processed (tonnages) shall be maintained.

   b) Records of routine and non-routine maintenance shall be maintained.

   c) Records regarding the maintenance and use of the air pollution control equipment (including but not limited to enclosures) shall be maintained.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. Specific Reporting Requirements:

See Section F.

7. Specific Control Equipment Operating Conditions:

a) The air pollution control equipment (enclosures for the east track hopper operations, conveyors A, B, C, J, and transfer points; compaction and wet suppression for stockpile operations) shall be used as necessary to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and use of the air pollution control equipment (enclosures for the east track hopper operations, conveyors A, B, C, J, and transfer points; and compaction and wet suppression for stockpile operations) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Units: 13 (14) - Coal Handling Operations

Description:
Construction commenced: conveyor D before 1957, conveyors K & K-1 before 1971
Equipment includes:

Point 13 (14) - conveyor D - traveling tripper, and coal bunkers for Units 1 & 2, and transfer points

- conveyor K-1 - upper traveling tripper for Unit 3, Unit 3 coal bunker, and transfer points

- conveyor K - lower traveling tripper for Unit 3, Unit 3 coal bunker, and transfer points

Control equipment: Rotoclone, baghouse, and partial enclosures
Maximum Operating Rate: 820 tons/hour, each point

Applicable Regulations:
401 KAR 61:020, Existing process operations, for emissions unit commenced before July 2, 1975

1. **Operating Limitations:**
None

2. **Emission Limitations:**
a) Pursuant to 401 KAR 61:020, Section 3(2), particulate matter emissions into the open air shall not exceed [55 $(P)^{0.11}$ - 40] pounds per hour based on three-hour average where P is the operating rate in tons per hour.

b) Pursuant to 401 KAR 61:020, Section 3(1)(a), any continuous emission(s) into the open air shall not equal or exceed forty (40) percent opacity based on a six-minute average.

3. **Testing Requirements:**
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. Specific Monitoring Requirements:

a) The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a weekly basis and maintain a log of the observations. If visible emissions from any stack are seen, the permittee shall determine the opacity of emissions by Reference Method 9 and initiate an inspection of the control equipment for any necessary repairs.

b) The permittee shall monitor the operating rate and hours of operation on a daily basis.

5. Specific Record Keeping Requirements:

a) Records of the daily coal processed/burned and hours of operation shall be maintained.

b) Records regarding the maintenance of the rotoclone and baghouse shall be maintained.

6. Specific Reporting Requirements:

See Section F.

7. Specific Control Equipment Operating Conditions:

a) The rotoclone and baghouse shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 16 (13) - Coal Crushing and Processing

Description:
Construction commenced before: 1957
Equipment includes: four crushers and the crusher house
Control equipment: Enclosures / Filters
Maximum Operating Rate: 1640 tons/hour, total

Applicable Regulations:
401 KAR 61:020, Existing process operations, for emissions unit commenced before July 2, 1975

1. Operating Limitations:
None

2. Emission Limitations:
a) Pursuant to 401 KAR 61:020, Section 3(2), particulate matter emissions into the open air shall not exceed [55 $(P)^{0.11}$ - 40] pounds per hour based on three-hour average where P is the operating rate in tons per hour.

b) Pursuant to 401 KAR 61:020, Section 3(1)(a), any continuous emission(s) into the open air shall not equal or exceed forty (40) percent opacity based on a six-minute average.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
a) The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a weekly basis and maintain a log of the observations. If visible emissions from any stack are seen, the permittee shall determine the opacity of emissions by Reference Method 9 and initiate an inspection of the control equipment for any necessary repairs.

b) The permittee shall monitor the operating rate and hours of operation on a daily basis.

5. Specific Record Keeping Requirements:
Records of the daily coal processed/burned and hours of operation shall be maintained.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

6. Specific Reporting Requirements:
See Section F.

7. Specific Control Equipment Operating Conditions:
a) The dust collector shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the dust collector shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 21 (16) - Dry Fly Ash Handling

Description:
Construction commenced: 1982
Equipment includes: Dry fly ash collection system, with a fly ash silo, and pulse jet fabric filter dust collector
Control Equipment: Enclosures / Baghouse
Maximum Operating Rate: 79.5 Tons/hour

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations, applicable for emissions units commenced on or after July 2, 1975

1. Operating Limitations:
None

2. Emission Limitations:
a) Pursuant to 401 KAR 59:010, Section 3 (2), particulate matter emissions into the open air shall not exceed $[17.31(P)^{0.16}]$ pounds per hour based on a three-hour average where P is the operating rate in tons per hour.

b) Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emission(s) into the open air shall not equal or exceed twenty (20) percent opacity based on a six-minute average.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
a) The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a weekly basis when the unit is operating and maintain a log of the observations. If visible emissions from any stack are seen, the permittee shall determine the opacity of emissions by Reference Method 9 and initiate an inspection of the control equipment for any necessary repairs.

b) The permittee shall monitor the operating rate and hours of operation on a daily basis.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:
Records of the daily ash processed and hours of operation shall be maintained.

6. Specific Reporting Requirements:
See Section F.

7. Specific Control Equipment Operating Conditions:
a) The baghouse shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the baghouse shall be maintained.

c) See Section E for further requirements.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 23(09), 24(10), 25(08), 26(11) and 29(05) - Oil/Natural Gas-Fired Turbines (Units 5,8,9,10 & 11)

Description:

Construction commenced before: Unit 5 before 2001 (note-this unit only uses natural gas)
Unit 8 before 1995, Unit 9 before 1994, Unit 10 before 1995 & Unit 11 before 1996.

1368 mmBtu/hr rated heat input capacity
ABB GT 11N2 no. two fuel oil/natural gas-fired (natural gas only for unit 5), simple cycle, combustion turbines for electricity generation equipped with water injection for nitrogen oxides emissions control

Applicable Regulations:

401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, for emissions unit with a heat input at peak load equal to or greater than 10 mmBtu/hr for which construction commenced after October 3, 1977, and 40 CFR 60, Subpart A, General Provisions.
401 KAR 51:017, Prevention of Significant Deterioration of Air Quality
401 KAR 52:060, incorporating by reference 40 CFR 75, "Continuous Emission Monitoring", as published in the Code of Federal Regulations, 40 CFR Parts 72 to 80, July1, 1999.

1. Operating Limitations:

a) The rated capacity at ISO standard conditions, shall not exceed 1368 mmBtu/hr for each turbine in accordance with 401 KAR 51:017. The rated capacity shall be calculated from the fuel usage rate at ISO standard conditions, and corresponding fuel heating value characteristic of the fuel to be combusted. Monthly records of the rated capacity shall be maintained.

b) The maximum annual hours of operation for each turbine shall not exceed 2500 hours, in accordance with Regulation 401 KAR 51:017. The permittee shall maintain a monthly log of all hours of operation of the turbine, for any consecutive twelve (12) month period.

2. Emission Limitations:

a) 1. Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.332, and 401 KAR 51:017, nitrogen oxide emissions from each turbine shall not exceed 65 ppm by volume at 15 percent oxygen and on a dry basis when burning number two fuel oil. (Except unit 5 see table). Compliance shall be assured by following the alternate method approved in 40 CFR 75, in lieu of the water-to-fuel monitoring system or using a CEMS. Compliance with 40 CFR 75 Appendix E shall assure compliance with 40 CFR 60 Subpart GG.

2. Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.332, and 401 KAR 51:017, nitrogen oxide emissions from each turbine shall not exceed 42 ppm by volume at 15 percent oxygen and on a dry basis when burning natural gas. (Except unit 5; see table). Compliance shall be assured by following the alternate method approved in 40 CFR 75, in lieu of the water-to-fuel monitoring system or using a CEMS. Compliance with 40 CFR 75 Appendix E shall assure compliance with 40 CFR 60 Subpart GG.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

2. Emission Limitations continued:

KU Unit#	Limit for NOx (NG)	Limit for NOx (Fuel Oil
Unit 5	25 ppm	NA
Unit 8	42 ppm	65 ppm
Unit 9	42 ppm	65 ppm
Unit 10	42 ppm	65 ppm
Unit 11	42 ppm	65 ppm

b) Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.333, and 401 KAR 51:017 the fuel sulfur content and corresponding sulfur dioxide emissions shall not exceed the standards set forth below:

Number of Turbines Operational	Maximum Allowable Percent by Weight Sulfur in the Fuel	Maximum Allowable Sulfur Dioxide Emissions
6 or less	0.30	444 pounds per hour per turbine
7	0.26	444 pounds per hour per turbine

The permittee may assure compliance with the corresponding sulfur dioxide allowable emission rate by calculation using representative fuel analysis, and hourly fuel consumption data from the continuous monitoring system. Formula: Pounds (lbs) per hour sulfur dioxide when combusting number two fuel oil = gallons per hour fuel oil x density in pounds per gallon (about 7.05 lb/gallon) x percent sulfur/100 x 2.00 lbs sulfur dioxide per lb sulfur (emission factor from ABB Vendor); or lbs per hour sulfur dioxide when combusting natural gas = million cubic feet (MMCF) natural gas per hour x 0.6 lb/MMCF (AP-42).

c) Pursuant to 401 KAR 51:017, the carbon monoxide emissions for each turbine shall not exceed 75 pounds per hour and 93.8 tons per year. Formula: lbs per hour carbon monoxide emissions when combusting number two fuel oil = gallons per hour fuel oil x 0.00715 lbs/gallon (emission factor from ABB Vendor); or lbs per hour carbon monoxide emissions when combusting natural gas = MMCF natural gas per hour x 43 lb/MMCF (AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton). Excluding the startup and shut down periods, if any 3-hour rolling average carbon monoxide value exceeds the permit limit, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and complete necessary process repairs or take corrective action as soon as practicable.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

2. Emission Limitations continued:

d) Pursuant to 401 KAR 51:017, particulate emissions for each turbine shall not exceed 67 pounds per hour and 83.8 tons per year. Formula: lbs per hour particulate emissions when combusting number two fuel oil = gallons per hour fuel x 0.00638 lbs/gallon (emission factor from ABB Vendor); or lbs per hour particulate emissions when combusting natural gas = MMCF natural gas per hour x 20.3 lbs/MMCF (AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton)

e) Pursuant to 401 KAR 51:017, volatile organic compound emissions for each turbine shall not exceed 20.4 pounds per hour and 25.5 tons per year. Formula: lbs per hour volatile organic compound emissions when combusting number two fuel oil = gallons per hour fuel x 0.00194 lbs/gallon (emission factor from ABB Vendor); or lbs per hour volatile organic compound emissions when combusting natural gas = MMCF natural gas per hour x 12.6 lbs/MMCF (KYEIS factor; no data given in 10/96 AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton)

f) Pursuant to 401 KAR 51:017, beryllium emissions for each turbine shall not exceed 3.37E-03 pound per hour and 4.21E-03 ton per year. Formula: lbs per hour beryllium emissions when combusting number two fuel oil = gallons per hour fuel x 3.22E-07 lbs/gallon (emission factor from EPA document on Toxic Air Pollutants number EPA450/2-88-006a); no emission factor available for beryllium when combusting natural gas - beryllium emissions when combusting natural gas are not expected to be significant.

3. Testing Requirements:

a) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.8(b)3, the owner or operator shall compute the NOx and SO2 emissions of the fuel being fired by Division approved alternate procedures as listed in Appendix D and E of 40 CFR 75.

b) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.335(b), in conducting performance tests required by 40 CFR 60.8, the owner or operator shall use the Administrator approved alternate procedures as provided for in 40 CFR 60.8(b)3.

c) The owner or operator shall determine compliance with the nitrogen oxides and sulfur dioxide standards in accordance with Appendix D and E of 40 CFR 75.

d) Pursuant to 401 KAR 60:005, incorporating 40 CFR 60.335(d), the owner or operator shall determine compliance with the sulfur content standard as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Therefore, dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Division.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

e) To meet the requirements of 40 CFR 60.334(b), the owner or operator shall use the methods specified in 40 CFR 60.335(a) and (d) to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

f) The permittee shall conduct at least one performance test for nitrogen oxides by the start of the fourth year of this permit. Also, see General Condition G(a)17.

4. Specific Monitoring Requirements:

a) Pursuant to 401 KAR 59:005, Section 4(9)(b) and in accordance with 401 KAR 52:020, Section 10, and 401 KAR 52:060, Acid Rain, incorporating by reference 40 CFR 75, the Division has approved an alternate procedure which shall be used in lieu of Continuous Emissions Monitors (CEM) to determine NOx, SO2, and CO2 emissions. The nitrogen oxides alternate shall be used as the indicator of continuous compliance with the nitrogen oxides emission limit. Excluding the startup and shut down periods, if any 3-hour rolling average exceeds the nitrogen oxides emission limitation, the permittee shall initiate an investigation of the cause of the exceedance and complete the necessary control device or process repairs or take corrective action as soon as practicable. If a unit's operations exceed the level required to be a peaking unit, install and certify a continuous NOx emission monitoring system no later than December 31 of the following calendar year. [40 CFR 75: 12 (d) (2)]

b) The alternate method for CEMS approved in 40 CFR 75, Appendix E, shall be used in lieu of the water-to-fuel monitoring system to monitor nitrogen oxide emissions. Compliance with 40 CFR 75, Appendix E, shall assure compliance with 40 CFR 60, Subpart GG.

c) The Division approved alternate system for measuring oxygen levels shall be installed, calibrated, maintained, and operated in accordance with manufacturer's instructions.

d) The owner or operator shall install, calibrate, operate, test, and monitor all monitoring systems and monitoring devices in accordance with all of the requirements of 40 CFR 75.

e) Pursuant to 401 KAR 52:020, Section 10, the permittee shall monitor the fuel consumption, the hours of operation and power output (in MW) daily for each emission unit.

f) Pursuant to 401 KAR 52:060, Acid Rain, incorporating 40 CFR 75, Appendix D, the owner or operator of any stationary turbine shall monitor sulfur content of the fuel being fired in the turbine. The frequency of determination of these values shall be as specified in 40 CFR 75 Appendix D. (Custom fuel monitoring schedule Appendix D, Tables D-4 & D-5) If pipeline natural gas is being used, vendor certification of sulfur content shall be accepted as fulfilling this requirement.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

g) Pursuant to 401 KAR 52:020, Section 10, incorporating 40 CFR 75, to meet the periodic monitoring requirement for carbon dioxide the permittee shall use the approved alternate procedure of 40 CFR 75, Appendix G in lieu of a continuous emission monitor (CEM).

5. Specific Record Keeping Requirements:

a) Pursuant to 401 KAR 59:005, Section 3, the owner or operator of the gas turbine shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection.

b) Records, including those documenting the results of each compliance test, and all other records and reports required by this permit shall be maintained.

c) Pursuant to 401 KAR 59:005, Section 3, the owner or operator of the unit shall maintain the records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the emissions unit, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative.

d) The permittee shall maintain a log of all sulfur content measurements as required in the approved custom fuel sulfur-monitoring plan (Condition 4(f) above).

e) Records of the daily natural gas (million standard cubic feet) and/or number two fuel oil (gallons) combusted shall be maintained for any consecutive twelve (12) month period.

f) The permittee shall maintain a daily log of all hours of operation and power output (in MW) for each combustion turbine, for any consecutive twelve (12) month period.

g) Records regarding the maintenance and operation/use of the water injection control system for nitrogen oxides emissions shall be maintained.

6. Specific Reporting Requirements:

a) Pursuant to 401 KAR 59:005, Section 3, minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. Owners or operators of facilities required to install continuous monitoring systems or employ Division approved alternate procedures which shall be used in lieu of Continuous Emissions Monitor (CEMs) shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

1) The magnitude of the excess emissions computed in accordance with 401 KAR 59:005, Section 4(8), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the emissions unit. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

4) When no excess emissions have occurred or the CEMs or the alternate emissions procedure used in lieu of CEMs have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

b) The alternate method for CEMs approved in 40 CFR 75, Appendix E, shall be used for reporting excess emissions of nitrogen oxides. Compliance with 40 CFR 75, Appendix E, shall assure compliance with 40 CFR 60, Subpart GG.

c) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.334(c), excess emissions of sulfur dioxide are defined as any daily period during which the sulfur content of the fuel being fired in the gas turbine(s) exceeds the limitations set forth in Subsection 2, Emission Limitations.

7. Specific Control Equipment Operating Conditions:

a) The water injection control system for nitrogen oxides emissions shall be used/operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) See Section E for further requirements.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 27 (06), and 28 (07) - Oil/Natural Gas-Fired Turbines (Units 06, & 07)

Description:
Construction commenced before: Unit 6 before 1999
Unit 7 before 1999
1678 mmBtu/hr rated heat input capacity
ABB GT 24 number two fuel oil/natural gas-fired, simple cycle, combustion turbines for electricity generation equipped with water injection for nitrogen oxides emissions control

Applicable Regulations:
401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, for emissions unit with a heat input at peak load equal to or greater than 10 mmBtu/hr for which construction commenced after October 3, 1977, and 40 CFR 60, Subpart A, General Provisions.
401 KAR 51:017, Prevention of significant deterioration of air quality
401 KAR 52:060, incorporating by reference 40 CFR 75, "Continuous Emission Monitoring", as published in the Code of Federal Regulations, 40 CFR Parts 72 to 80, July1, 1999.

1. Operating Limitations:

a) The rated capacity at ISO standard conditions, shall not exceed 1678 mmBtu/hr for each turbine in accordance with 401 KAR 51:017. The rated capacity shall be calculated from the fuel usage rate at ISO standard conditions, and corresponding fuel heating value characteristic of the fuel to be combusted. Monthly records of the rated capacity shall be maintained.

b) The maximum annual hours of operation for each turbine shall not exceed 2500 hours, in accordance with 401 KAR 51:017. The permittee shall maintain a monthly log of all hours of operation of the turbine, for any consecutive twelve (12) month period.

2. Emission Limitations:

a) 1. Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.332, and 401 KAR 51:017, nitrogen oxide emissions from each turbine shall not exceed 42 ppm by volume at 15 percent oxygen and on a dry basis when burning number two fuel oil. Compliance shall be assured by following the alternate method approved in 40 CFR 75, in lieu of the water-to-fuel monitoring system or using a CEMS. Compliance with 40 CFR 75 Appendix E shall assure compliance with 40 CFR 60 Subpart GG.

2. Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.332, and 401 KAR 51:017, nitrogen oxide emissions from each turbine shall not exceed 25 ppm by volume at 15 percent oxygen and on a dry basis when burning natural gas. Compliance shall be assured by following the alternate method approved in 40 CFR 75, in lieu of the water-to-fuel monitoing system or using a CEMS. Compliance with 40 CFR 75 Appendix E shall assure compliance with 40 CFR 60 Subpart GG.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

2. Emission Limitations continued:

b) Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.333, and 401 KAR 51:017 the fuel sulfur content and corresponding sulfur dioxide emissions shall not exceed the standards set forth below:

Number of Turbines Operational	Maximum Allowable Percent by Weight Sulfur in the Fuel	Maximum Allowable Sulfur Dioxide Emissions
6 or less	0.26	666 pounds per hour per turbine
7	0.23	666 pounds per hour per turbine

The permittee may assure compliance with the corresponding sulfur dioxide allowable emission rate by calculation using representative fuel analysis, and hourly fuel consumption data from the continuous monitoring system. Formula: Pounds (lbs) per hour sulfur dioxide when combusting number two fuel oil = gallons per hour fuel oil x density in pounds per gallon (about 7.05 lb/gallon) x percent sulfur/100 x 2.00 lbs sulfur dioxide per lb sulfur (emission factor from ABB Vendor); or lbs per hour sulfur dioxide when combusting natural gas = million cubic feet (MMCF) natural gas per hour x 0.6 lb/MMCF (AP-42).

c) Pursuant to 401 KAR 51:017, the carbon monoxide emissions for each turbine shall not exceed 112.5 pounds per hour and 140.63 tons per year. Formula: lbs per hour carbon monoxide emissions when combusting number two fuel oil = gallons per hour fuel oil x 0.00715 lbs/gallon (emission factor from ABB Vendor); or lbs per hour carbon monoxide emissions when combusting natural gas = MMCF natural gas per hour x 43 lb/MMCF (AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton). Excluding the startup and shut down periods, if any 3-hour rolling average carbon monoxide value exceeds the permit limit, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and complete necessary process repairs or take corrective action as soon as practicable.

d) Pursuant to 401 KAR 51:017, particulate emissions for each turbine shall not exceed 100.5 pounds per hour and 125.63 tons per year. Formula: lbs per hour particulate emissions when combusting number two fuel oil = gallons per hour fuel x 0.00638 lbs/gallon (emission factor from ABB Vendor); or lbs per hour particulate emissions when combusting natural gas = MMCF natural gas per hour x 20.3 lbs/MMCF (AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton)

e) Pursuant to 401 KAR 51:017, volatile organic compound emissions for each turbine shall not exceed 30.6 pounds per hour and 38.25 tons per year. Formula: lbs per hour volatile organic compound emissions when combusting number two fuel oil = gallons per hour fuel x 0.00194 lbs/gallon (emission factor from ABB Vendor); or lbs per hour volatile organic compound emissions when combusting natural gas = MMCF natural gas per hour x 12.6 lbs/MMCF (KYEIS factor; no data given in 10/96 AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton)

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

2. Emission Limitations continued:

f) Pursuant to 401 KAR 51:017, beryllium emissions shall not exceed 5.057E-03 pound per hour and 6.35E-03 ton per year. Formula: lbs per hour beryllium emissions when combusting number two fuel oil = gallons per hour fuel x 3.22E-07 lbs/gallon (emission factor from EPA document on Toxic Air Pollutants number EPA450/2-88-006a); no emission factor available for beryllium when combusting natural gas - beryllium emissions when combusting natural gas are not expected to be significant.

3. Testing Requirements:

a) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.8(b)3, the owner or operator shall compute the NOx and SO2 emissions of the fuel being fired by Division approved alternate procedures as listed in Appendix D and E of 40 CFR 75.

b) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.335(b), in conducting performance tests required by 40 CFR 60.8, the owner or operator shall use the Administrator approved alternate procedures as provided for in 40 CFR 60.8(b)3.

c) The owner or operator shall determine compliance with the nitrogen oxides and sulfur dioxide standards in accordance with Appendix D and E of 40 CFR 75.

d) Pursuant to 401 KAR 60:005, incorporating 40 CFR 60.335(d), the owner or operator shall determine compliance with the sulfur content standard as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Therefore, dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Division.

e) To meet the requirements of 40 CFR 60.334(b), the owner or operator shall use the methods specified in 40 CFR 60.335(a) and (d) to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

f) The permittee shall conduct at least one performance test for nitrogen oxides by the start of the fourth year of this permit. Also, see General Condition G(a)17.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. Specific Monitoring Requirements:

a) Pursuant to 401 KAR 59:005, Section 4(9)(b) and in accordance with 401 KAR 52:020, Section 10, and 401 KAR 52:060, Acid Rain, incorporating by reference 40 CFR 75, the Division has approved an alternate procedure which shall be used in lieu of Continuous Emissions Monitors (CEM) to determine NOx, SO2, and CO2 emissions. The nitrogen oxides alternate shall be used as the indicator of continuous compliance with the nitrogen oxides emission limit. Excluding the startup and shut down periods, if any 3-hour rolling average exceeds the nitrogen oxides emission limitation, the permittee shall initiate an investigation of the cause of the exceedance and complete the necessary control device or process repairs or take corrective action as soon as practicable. If a unit's operations exceed the level required to be a peaking unit, install and certify a continuous NOx emission monitoring system no later than December 31 of the following calendar year. [40 CFR 75: 12 (d) (2)]

b) The alternate method for CEMS approved in 40 CFR 75, Appendix E, shall be used in lieu of the water-to-fuel monitoring system to monitor nitrogen oxide emissions. Compliance with 40 CFR 75, Appendix E, shall assure compliance with 40 CFR 60, Subpart GG.

c) The Division approved alternate system for measuring oxygen levels shall be installed, calibrated, maintained, and operated in accordance with manufacturer's instructions.

d) The owner or operator shall install, calibrate, operate, test, and monitor all monitoring systems and monitoring devices in accordance with all of the requirements of 40 CFR 75.

e) Pursuant to 401 KAR 52:020, Section 10, the permittee shall monitor the fuel consumption, the hours of operation and power output (in MW) daily for each emission unit.

f) Pursuant to 401 KAR 52:060, Acid Rain, incorporating 40 CFR 75, Appendix D, the owner or operator of any stationary turbine shall monitor sulfur content of the fuel being fired in the turbine. The frequency of determination of these values shall be as specified in 40 CFR 75 Appendix D. (Custom fuel monitoring schedule Appendix D, Tables D-4 & D-5) If pipeline natural gas is being used, vendor certification of sulfur content shall be accepted as fulfilling this requirement.

g) Pursuant to 401 KAR 52:020, Section 10, incorporating 40 CFR 75, to meet the periodic monitoring requirement for carbon dioxide the permittee shall use the approved alternate procedure of 40 CFR 75, Appendix G in lieu of a continuous emission monitor (CEM).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

a) Pursuant to 401 KAR 59:005, Section 3, the owner or operator of the gas turbine shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection.

b) Records, including those documenting the results of each compliance test, and all other records and reports required by this permit shall be maintained.

c) Pursuant to 401 KAR 59:005, Section 3, the owner or operator of the unit shall maintain the records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the emissions unit, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative.

d) The permittee shall maintain a log of all sulfur content measurements as required in the approved custom fuel sulfur-monitoring plan (Condition 4(f) above).

e) Records of the daily natural gas (million standard cubic feet) and/or number two fuel oil (gallons) combusted shall be maintained for any consecutive twelve (12) month period.

f) The permittee shall maintain a daily log of all hours of operation and power output (in MW) for each combustion turbine, for any consecutive twelve (12) month period.

g) Records regarding the maintenance and operation/use of the water injection control system for nitrogen oxides emissions shall be maintained.

6. Specific Reporting Requirements:

a) Pursuant to 401 KAR 59:005, Section 3, minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. Owners or operators of facilities required to install continuous monitoring systems or employ Division approved alternate procedures which shall be used in lieu of Continuous Emissions Monitor (CEMs) shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

1) The magnitude of the excess emissions computed in accordance with the Regulation 401 KAR 59:005, Section 4(8), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the emissions unit. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

b) The alternate method for CEMs approved in 40 CFR 75, Appendix E, shall be used for reporting excess emissions of nitrogen oxides. Compliance with 40 CFR 75, Appendix E, shall assure compliance with 40 CFR 60, Subpart GG.

c) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.334(c), excess emissions of sulfur dioxide are defined as any daily period during which the sulfur content of the fuel being fired in the gas turbine(s) exceeds the limitations set forth in Subsection 2, Emission Limitations.

7. Specific Control Equipment Operating Conditions:

a) The water injection control system for nitrogen oxides emissions shall be used/operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) See Section E for further requirements.

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary.

	Description	Generally Applicable Regulation
1.	Station fuel-oil tanks (2 with capacity 1,100,000 gal/each)	401 KAR 59:010
2.	Fuel-oil tanks (various installed before 1973)	401 KAR 61:020
3.	Lubricating-oil tanks (2 with capacity 9000 gal/each)	401 KAR 61:020
4.	Unleaded gasoline storage tanks	401 KAR 63:010
5.	Lubricating-oil tank (1 with capacity 6500 gal/each)	401 KAR 61:020
6.	Lubricating-oil tanks (2 with capacity 3600 gal/each)	401 KAR 61:020
7.	Lubricating-oil tanks (4 with capacity 3500 gal/each)	401 KAR 61:020
8.	Lubricating-oil tanks (2 with capacity 3000 gal/each)	401 KAR 61:020
9.	Cooling Towers	401 KAR 63:010
10.	SO_3, sulfur trioxide, injection system	401 KAR 61:020
11.	Thermal evaporation of boiler cleaning wastes	401 KAR 61:020
12.	Off-specification used oil fuel burned for energy recovery	401 KAR 61:020
13.	Paved and unpaved roadways and parking areas	401 KAR 63:010
14.	Natural gas-fired fuel heaters (less than 7mmBtu/hr each)	401 KAR 59:010
15.	Emergency generators	401 KAR 59:010
16.	Kerosene tank (1 with capacity 500 gal/each)	401 KAR 61:020
17.	Distillate oil and/or propane coal belt heaters	401 KAR 59:010

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. Particulate, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, beryllium, and visible (opacity) emissions, as measured by methods referenced in Regulation 401 KAR 50:015, Section 1, shall not exceed the respective limitations specified herein.

2. As required by Section 1b of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.

SECTION E - CONTROL EQUIPMENT CONDITIONS

Pursuant to Regulation 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any emissions unit including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS

1. Pursuant to Section 1b (IV)1 of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
   a. Date, place as defined in this permit, and time of sampling or measurements;
   b. Analyses performance dates;
   c. Company or entity that performed analyses;
   d. Analytical techniques or methods used;
   e. Analyses results; and
   f. Operating conditions during time of sampling or measurement.

2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b(IV) 2 and 1a(8) of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26].

3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
   a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
   b. To access and copy any records required by the permit:
   c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.
   d. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Section 1b (V)1 of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26].

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

6. The semi-annual reports are due by January 30th and July 30th of each year. Data from the continuous emission and opacity monitors shall be reported to the Technical Services Branch in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1 the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   a. When emissions during any planned shutdowns and ensuing startups will exceed the standards notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
   b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards notification shall be made as promptly as possible by telephone (or other electronic media) and shall submit written notice upon request.

8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report required by Section F.6 [Section 1b (V) 3, 4. of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26].

9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
   a. Identification of the term or condition;
   b. Compliance status of each term or condition of the permit;
   c. Whether compliance was continuous or intermittent;
   d. The method used for determining the compliance status for the source, currently and over the reporting period.
   e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

Division for Air Quality
Frankfort Regional Office
643 Teton Trail, Suite B
Frankfort, KY 40601

U.S. EPA Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within thirty (30) days of the date the KYEIS emission survey is mailed to the permittee.

11. Pursuant to Section VII (3) of the policy manual of the Division for Air Quality as referenced in 401 KAR 50:016, Section 1(1), results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five days after the completion of the fieldwork.

SECTION G - GENERAL CONDITIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a, 3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a, 6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
   a. If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
   b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
   c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
   d. If any additional applicable requirements of the Acid Rain Program become applicable to the source.

   Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or compliance with the conditions of this permit [Section 1a, 7,8 of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26].

5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].

SECTION G - GENERAL CONDITIONS (CONTINUED)

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a, 14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a, 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States [Section 1a, 15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a, 10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3)(b)].

11. This permit does not convey property rights or exclusive privileges [Section 1a, 9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Natural Resources and Environmental Protection or any other federal, state, or local agency.

13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3)(d)].

14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3)(a)].

15. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.

SECTION G - GENERAL CONDITIONS (CONTINUED)

16. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of issuance. Compliance with the conditions of a permit shall be considered compliance with:
    (a) Applicable requirements that are included and specifically identified in the permit and
    (b) Non-applicable requirements expressly identified in this permit.

17. Pursuant to Section VII 2.(1) of the policy manual of the Division for Air Quality as referenced by 401 KAR 50:016, Section 1.(1), at least one month prior to the date of the required performance test, the permittee shall complete and return a Compliance Test Protocol (Form DEP 6027) to the Division's Frankfort Central Office. Pursuant to 401 KAR 50:045, Section 5, the Division shall be notified of the actual test date at least ten (10) days prior to the test.

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].

2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020 Section 8(2)].

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).

2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

SECTION G - GENERAL CONDITIONS (CONTINUED)

(d) Construction, Start-Up, and Initial Compliance Demonstration Requirements

N/A

(e) Acid Rain Program Requirements

1. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

2. The source shall comply with all requirements and conditions of the Title IV, Acid Rain Permit issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.

(f) Emergency Provisions

1. Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
   a. An emergency occurred and the permittee can identify the cause of the emergency;
   b. The permitted facility was at the time being properly operated;
   c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
   d. Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
   e. This requirement does not relieve the source of other local, state or federal notification requirements.

2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].

3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

SECTION G - GENERAL CONDITIONS (CONTINUED)

(g) Risk Management Provisions

1. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

   RMP Reporting Center
   P.O. Box 3346
   Merrifield, VA, 22116-3346

2. If requested, submit additional relevant information to the Division or the U.S. EPA.

(h) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
   a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
   b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
   c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
   d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
   e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
   f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

SECTION H - ALTERNATE OPERATING SCENARIOS

None

SECTION I - COMPLIANCE SCHEDULE

None

SECTION J -ACID RAIN PERMIT

ACID RAIN PERMIT CONTENTS

1) Statement of Basis

2) SO_2 allowances allocated under this permit and NOx requirements for each affected unit.

3) Comments, notes and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.

4) The permit application submitted for this source. The owners and operators of the source must comply with the standard requirements and special provisions set forth in the Phase II Application and the Phase II NO_x Compliance Plan.

5) Summary of Actions

1) Statement of Basis:

Statutory and Regulatory Authorities: In accordance with KRS 224.10-100 and Titles IV and V of the Clean Air Act, the Kentucky Environmental and Public Protection Cabinet, Division for Air Quality issues this permit pursuant to Regulations 401 KAR 52:020, Permits, 401 KAR 52:060, Acid Rain Permit, and Federal Regulation 40 CFR Part 76.

PERMIT (Conditions)

Plant Name: E. W. Brown Station
Affected Unit: 1

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2003	2004	2005	2006	2007
Tables 2, 3 or 4 of 40 CFR Part 73	3,066*	3,066*	3,066*	3,066*	3,066*

NO_x Requirements	
NO_x Limits	(i) Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves the NOx emissions averaging plan for this unit. This plan is effective for calendar year 2003 through 2007. Under this plan, this unit's NOx emissions shall not exceed the annual average alternative contemporaneous emissions limitation (ACEL) of 0.50 lb/mmBtu. (ii) Under this plan, the actual Btu-weighted annual average NOx emissions rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NOx emissions rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emissions limitations under 40 CFR Part 76.5, 76.6, or 76.7. If the designated representative demonstrates that the requirement of condition (ii) (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emissions limitation set in condition (i). In addition to the described NOx compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NOx compliance plan and requirements covering excess emissions.

* The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

PERMIT (Conditions)

Plant Name: E. W. Brown Station
Affected Unit: 2

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2003	2004	2005	2006	2007
Tables 2, 3 or 4 of 40 CFR Part 73	5,807*	5,807*	5,807*	5,807*	5,807*

NO_x Requirements	
NO_x Limits	(i) Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves the NOx emissions averaging plan for this unit. This plan is effective for calendar year 2003 through 2007. Under this plan, this unit's NOx emissions shall not exceed the annual average alternative contemporaneous emissions limitation (ACEL) of 0.45 lb/mmBtu. (ii) Under this plan, the actual Btu-weighted annual average NOx emissions rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NOx emissions rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emissions limitations under 40 CFR Part 76.5, 76.6, or 76.7. If the designated representative demonstrates that the requirement of condition (ii) (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emissions limitation set in condition (i). In addition to the described NOx compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NOx compliance plan and requirements covering excess emissions.

* The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

PERMIT (Conditions)

Plant Name: E. W. Brown Station
Affected Unit: 3

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2003	2004	2005	2006	2007
Tables 2, 3 or 4 of 40 CFR Part 73	11,254*	11,254*	11,254*	11,254*	11,254*

NO_x Requirements	
NO_x Limits	(i) Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves the NOx emissions averaging plan for this unit. This plan is effective for calendar year 2003 through 2007. Under this plan, this unit's NOx emissions shall not exceed the annual average alternative contemporaneous emissions limitation (ACEL) of 0.45 lb/mmBtu. (ii) Under this plan, the actual Btu-weighted annual average NOx emissions rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NOx emissions rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emissions limitations under 40 CFR Part 76.5, 76.6, or 76.7. If the designated representative demonstrates that the requirement of condition (ii) (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emissions limitation set in condition (i). In addition to the described NOx compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NOx compliance plan and requirements covering excess emissions.

* The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

PERMIT (Conditions)

Plant Name: E. W. Brown Station
Affected Unit: 5, 6, 7, 8, 9, 10, & 11

- **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2003	2004	2005	2006	2007
Tables 2, 3 or 4 of 40 CFR Part 73	0*	0*	0*	0*	0*

NO_x Requirements	
NO_x Limits	N/A**

* For newly constructed units there are no SO_2 allowances allocations per USEPA Acid Rain Program.

** This unit currently does not have applicable NO_x limits set by 40 CFR, part 76**.**

PERMIT (Conditions)

- **Comments, Notes, and Justifications:**

  Affected units are one (1) dry bottom wall-fired and two (2) tangentially fired boilers.

  The seven (7) combustion turbines, units 5, 6, 7, 8, 9, 10, and 11, currently have no SO_2 allowances allocated by U.S. EPA.

  The seven (7) combustion turbines, units 5, 6, 7, 8, 9, 10, and 11, do not have applicable NO_x limits set by 40 CFR part 76.

- **Permit Application:**
  The Phase II Permit Application, the Phase II NO_x Compliance Plan, and the Phase II NO_x Averaging Plan are all part of this permit and the source must comply with the standard requirements and special provisions set forth in the Phase II Application, the Phase II NO_x Compliance Plan, and the Phase II NO_x Averaging Plan.

- **Summary of Actions:**

  Previous Actions:

  1. Draft Phase II Permit (# AR-96-13) including SO_2 compliance was issued for public comments on September 19, 1996.

  2. Final Phase II Permit (# AR-96-13) including SO_2 compliance plan was issued on December 16, 1996.

  3. Draft Phase II Permit (# A-98-019) was issued with the 1998 revised SO_2 allowance allocations and NO_x emissions standard for public comment on December 14, 1998.

  4. Final Phase II Permit (# A-98-019) that has been issued with the 1998 revised SO_2 allowance allocations and NO_x emissions standard shall become null and void when Proposed Permit Number V-03-034 is issued.

  5. Phase II Permit (# A-96-13) is hereby null and void.

  Previous Action

  Draft Title V with Section J Acid Rain Permit has been advertised for public comment.

  Present Action:

  Proposed Title V with Acid Rain Permit being issued.

SECTION K – NOx BUDGET PERMIT

1) Statement of Basis

Statutory and Regulatory Authorities: In accordance with KRS 224.10-100, the Kentucky Natural Resources and Environmental Protection Cabinet issues this permit pursuant to 401 KAR 52:020 Title V permits, 401 KAR 51:160, NOx requirements for large utility and industrial boilers, and 40 CFR 97, Subpart C.

2) NO_x Budget Permit Application, Form DEP 7007EE

The NOx Budget Permit application for these electrical generating units was submitted to the Division and received on November 24, 2003. Requirements contained in that application are hereby incorporated into and made part of this NOx Budget Permit. Pursuant to 401 KAR 52:020, Section 3, the source shall operate in compliance with those requirements.

3) Comments, notes, justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.

Affected units are one (1) dry bottom wall fired boiler, two (2) tangentially fired boilers, and seven (7) combustion turbines. Each unit has a capacity to generate 25 megawatts or more of electricity, which is offered for sale. The units use coal, fuel oil, and natural gas as fuel source, and are used as base load and peaking electric generating units.

4) Summary of Actions

The NOx Budget Permit is being issued as part of the initial Title V permit for this source. Public, affected state, and U.S. EPA review will follow procedures specified in 401 KAR 52:100.